IMI Air Conditioning Ltd

TECHNICAL MANUAL

for CWC CHILLED WATER CASSETTE.

This manual provides technical and installation information for CASSETTE 962 series fan coils.

INDEX		PAGE
GENERAL	Part Numbers, Dimensions and Weights	2
	Unit Features/Accessories	2
	Optional Control Valves	3
SELECTION	Hydraulic Resistance	3
	Performance Data, Airflows	4 - 7
	Coil Water Volumes, Optional Electric Heating	8
	Sound Power and Sound Pressure Levels	8
ELECTRICAL	Electrical Data, Recommended Fuse Sizes	8
UNIT INSTALLATION	CWC	9 - 11
	Pipework	11
	Electrical Connections	11
	IMI Remote Controller	12
	Fascia Mounting	12 - 13
	Condensate Pump/Overflow Protection	13
	Fresh Air/Adjacent Room Supply	13
WIRING DIAGRAM	CWC Units	14
OPERATION	CWC	15
	User Maintenance	16

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IMI AIR CONDITIONING LIMITED-CASSETTE CEILING MOUNTED CHILLED WATER UNITS

PART NUMBERS

CASSETTE CWC UNITS

Models	8	9	13	19
Part Number (without condensate pump)	96200001	96200002	96200004	96200005
Part Number (with condensate pump)	96200051	96200052	96200054	96200055

UNPACKED DIMENSIONS AND WEIGHTS

CWC UNITS

Model	CWC			
	8	9	13	19
HEIGHT mm	338	338	338	338
WIDTH mm	647	747	947	1247
DEPTH mm	647	647	647	647
WEIGHT kg	24	31	39	48

PACKED DIMENSIONS AND WEIGHTS

CWC UNITS

Model	CWC			
	8	9	13	19
HEIGHT mm	510	510	510	510
WIDTH mm	680	780	980	1280
DEPTH mm	710	710	710	710
WEIGHT kg	34	43	52	63

FEATURES/ACCESSORIES
CWC UNITS

	CWC
Manually adjustable air deflectors	STD
Automatically adjusted air deflectors	*
Electric/LPHW heating	*
Electromechanical remote thermostat	*
3 fan speeds	STD
Branch duct and fresh air inlet	*
Programmable timer	*
Condensate pump	*
Long life washable filter	STD
2 or 3 way valve arrangements	*
3 way discharge	STD

Key: * = factory/site option. STD = standard.

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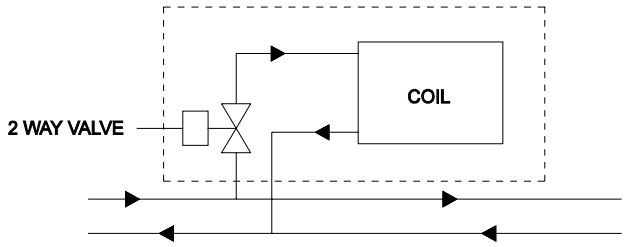
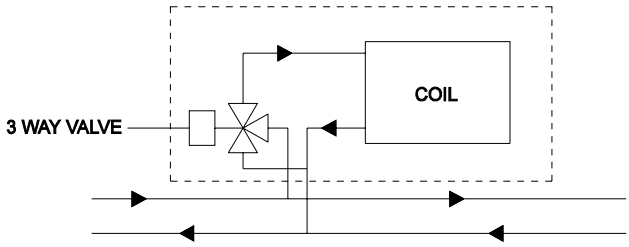
OPTIONAL CONTROL VALVES

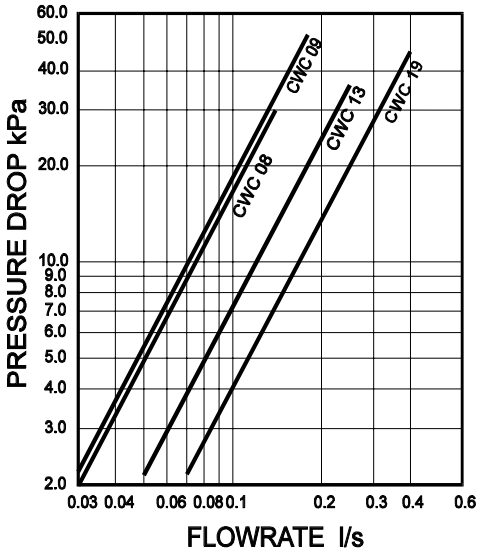
The choice of either 2 or 3 way valves are available, these are factory fitted and sited within the valve tray to give the following water flow arrangements.



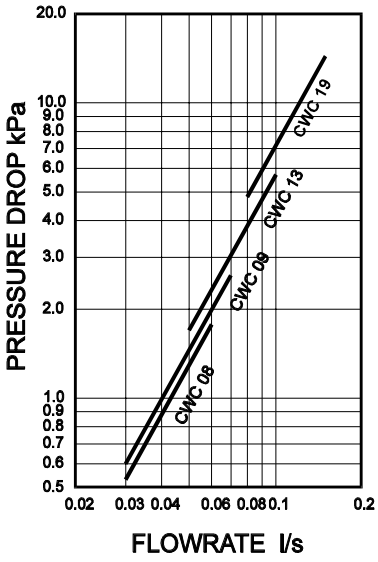


HYDRAULIC RESISTANCE

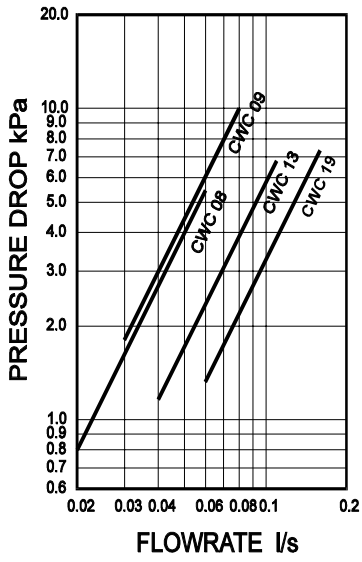
HYDRAULIC RESISTANCE - COOLING COILS



HYDRAULIC RESISTANCE - HOT WATER IN LPHW COILS



HYDRAULIC RESISTANCE- LOW TEMP HOT WATER IN COOLING COILS



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CWC 8 COOLING DUTIES

				Minimum Speed		Medium Speed		Maximum Speed	
Room Air On		CW Temperature		0.077 m^3/s		0.104 m^3/s		0.134 m^3/s	
db °C	wb °C	IN °C	OUT °C	Total	Sensible	Total	Sensible	Total	Sensible
27	19	6	11	1.79	1.26	2.20	1.59	2.57	1.91
21	15	5	9	1.20	0.95	1.48	1.20	1.73	1.45
21	15	5	11	0.84	0.79	0.96	0.96	1.16	1.16
21	15	5	13	0.71	0.71	0.85	0.85	0.97	0.97
21	15	7	11	0.85	0.79	1.05	1.01	1.23	1.23
21	15	7	13	0.67	0.67	0.80	0.80	0.92	0.92
21	15	7	15	0.58	0.58	0.69	0.69	0.79	0.79
21	15	9	13	0.62	0.62	0.81	0.81	0.99	0.99
21	15	9	15	0.53	0.53	0.64	0.64	0.73	0.73
21	15	9	17	0.45	0.45	0.53	0.53	0.61	0.61
24	17	5	9	1.65	1.18	2.03	1.49	2.38	1.79
24	17	5	11	1.25	1.01	1.57	1.29	1.84	1.56
24	17	5	13	0.97	0.89	1.09	1.09	1.25	1.25
24	17	7	11	1.32	1.03	1.61	1.31	1.89	1.58
24	17	7	13	0.89	0.86	1.08	1.08	1.33	1.33
24	17	7	15	0.78	0.78	0.93	0.93	1.06	1.06
24	17	9	13	0.96	0.88	1.17	1.12	1.36	1.36
24	17	9	15	0.73	0.73	0.88	0.88	1.08	1.08
24	17	9	17	0.65	0.65	0.77	0.77	0.88	0.88
27	19	5	9	2.12	1.41	2.60	1.77	3.05	2.12
27	19	5	11	1.77	1.26	2.18	1.58	2.56	1.91
27	19	5	13	1.29	1.05	1.63	1.36	1.95	1.66
27	19	7	11	1.79	1.26	2.19	1.59	2.56	1.91
27	19	7	13	1.42	1.11	1.75	1.40	2.04	1.70
27	19	7	15	1.03	0.95	1.16	1.16	1.40	1.40
27	19	9	13	1.44	1.11	1.76	1.41	2.05	1.70
27	19	9	15	0.99	0.94	1.26	1.21	1.48	1.48
27	19	9	17	0.84	0.84	1.01	1.01	1.16	1.16
29	19	5	9	2.14	1.57	2.63	1.98	3.08	2.36
29	19	5	11	1.81	1.42	2.22	1.80	2.59	2.17
29	19	5	13	1.31	1.22	1.69	1.58	2.00	1.93
29	19	7	11	1.82	1.43	2.22	1.80	2.59	2.17
29	19	7	13	1.46	1.27	1.78	1.62	2.08	1.96
29	19	7	15	1.10	1.10	1.36	1.36	1.69	1.69
29	19	9	13	1.47	1.28	1.79	1.62	2.08	1.96
29	19	9	15	1.12	1.12	1.43	1.43	1.73	1.73
29	19	9	17	0.97	0.97	1.16	1.16	1.45	1.45

CWC 8 HEATING DUTIES

				Minimum Speed	Medium Speed	Maximum Speed
Room Air On		LPHW Temperature		0.077 m^3/s	0.104 m^3/s	0.134 m^3/s
db °C	wb °C/%RH	IN °C	OUT °C	Total	Total	Total
20	12	80	70	4.15	5.26	6.37
10	50%	90	80	5.83	7.39	8.94
10	50%	90	75	5.59	7.07	8.54
10	50%	80	70	5.03	6.37	7.71
10	50%	80	65	4.79	6.05	7.30
10	50%	65	55	3.84	4.85	5.85
10	50%	65	50	3.58	4.51	5.44
15	50%	90	80	5.37	6.81	8.25
15	50%	90	75	5.14	6.50	7.86
15	50%	80	70	4.58	5.81	7.03
15	50%	80	65	4.34	5.49	6.63
15	50%	65	55	3.40	4.30	5.20
15	50%	65	50	3.15	3.97	4.79
20	50%	90	80	4.92	6.24	7.57
20	50%	90	75	4.69	5.94	7.18
20	50%	80	70	4.14	5.25	6.36
20	50%	80	65	3.91	4.94	5.97
20	50%	65	55	2.98	3.76	4.55
20	50%	65	50	2.72	3.44	4.15
25	50%	90	80	4.48	5.69	6.90
25	50%	90	75	4.25	5.38	6.52
25	50%	80	70	3.71	4.71	5.71
25	50%	80	65	3.48	4.40	5.32
25	50%	65	55	2.56	3.24	3.92
25	50%	65	50	2.30	2.91	3.52

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CWC 9 COOLING DUTIES

				Minimum Speed		Medium Speed		Maximum Speed	
Room Air On		CW Temperature		0.098 m^3/s		0.122 m^3/s		0.165 m^3/s	
db °C	wb °C	IN °C	OUT °C	Total	Sensible	Total	Sensible	Total	Sensible
27	19	6	11	2.39	1.65	2.77	1.95	3.36	2.44
21	15	5	9	1.62	1.25	1.89	1.48	2.29	1.86
21	15	5	11	1.10	1.02	1.35	1.24	1.67	1.58
21	15	5	13	0.90	0.90	1.03	1.03	1.21	1.21
21	15	7	11	1.19	1.06	1.39	1.26	1.68	1.59
21	15	7	13	0.85	0.85	0.96	0.96	1.27	1.27
21	15	7	15	0.74	0.74	0.84	0.84	0.98	0.98
21	15	9	13	0.85	0.85	1.02	1.02	1.29	1.29
21	15	9	15	0.68	0.68	0.77	0.77	0.91	0.91
21	15	9	17	0.57	0.57	0.65	0.65	0.76	0.76
24	17	5	9	2.18	1.54	2.54	1.83	3.08	2.28
24	17	5	11	1.79	1.36	2.08	1.62	2.53	2.03
24	17	5	13	1.23	1.13	1.34	1.31	1.80	1.73
24	17	7	11	1.76	1.35	2.05	1.60	2.48	2.01
24	17	7	13	1.32	1.16	1.54	1.39	1.87	1.76
24	17	7	15	0.99	0.99	1.12	1.12	1.39	1.39
24	17	9	13	1.32	1.16	1.53	1.38	1.83	1.74
24	17	9	15	0.93	0.93	1.14	1.14	1.46	1.46
24	17	9	17	0.82	0.82	0.93	0.93	1.10	1.10
27	19	5	9	2.77	1.83	3.22	2.16	3.91	2.68
27	19	5	11	2.40	1.66	2.80	1.97	3.39	2.45
27	19	5	13	1.95	1.47	2.29	1.75	2.78	2.20
27	19	7	11	2.35	1.64	2.74	1.94	3.30	2.41
27	19	7	13	1.97	1.47	2.28	1.75	2.76	2.19
27	19	7	15	1.40	1.25	1.70	1.51	2.08	1.93
27	19	9	13	1.92	1.45	2.22	1.72	2.67	2.15
27	19	9	15	1.49	1.28	1.73	1.53	2.08	1.92
27	19	9	17	1.07	1.07	1.22	1.22	1.62	1.62
29	19	5	9	2.80	2.04	3.25	2.41	3.94	3.00
29	19	5	11	2.44	1.87	2.84	2.22	3.43	2.78
29	19	5	13	2.00	1.68	2.34	2.01	2.83	2.53
29	19	7	11	2.39	1.85	2.77	2.19	3.33	2.74
29	19	7	13	2.01	1.68	2.33	2.00	2.80	2.51
29	19	7	15	1.49	1.47	1.77	1.77	2.25	2.25
29	19	9	13	1.95	1.66	2.26	1.97	2.71	2.48
29	19	9	15	1.54	1.49	1.78	1.78	2.24	2.24
29	19	9	17	1.25	1.25	1.53	1.53	1.95	1.95

CWC 9 HEATING DUTIES

				Minimum Speed	Medium Speed	Maximum Speed
Room Air On		LPHW Temperature		0.098 m^3/s	0.122 m^3/s	0.165 m^3/s
db °C	wb °C/%RH	IN °C	OUT °C	Total	Total	Total
20	12	80	70	5.31	6.32	7.96
10	50%	90	80	7.45	8.86	11.14
10	50%	90	75	7.16	8.50	10.68
10	50%	80	70	6.43	7.65	9.62
10	50%	80	65	6.14	7.29	9.15
10	50%	65	55	4.91	5.83	7.33
10	50%	65	50	4.61	5.46	6.84
15	50%	90	80	6.86	8.17	10.28
15	50%	90	75	6.58	7.82	9.83
15	50%	80	70	5.86	6.97	8.78
15	50%	80	65	5.57	6.62	8.31
15	50%	65	55	4.36	5.18	6.51
15	50%	65	50	4.06	4.81	6.03
20	50%	90	80	6.29	7.49	9.44
20	50%	90	75	6.01	7.14	8.99
20	50%	80	70	5.30	6.31	7.95
20	50%	80	65	5.01	5.96	7.49
20	50%	65	55	3.82	4.54	5.70
20	50%	65	50	3.52	4.18	5.23
25	50%	90	80	5.72	6.82	8.61
25	50%	90	75	5.45	6.48	8.16
25	50%	80	70	4.75	5.66	7.13
25	50%	80	65	4.47	5.31	6.68
25	50%	65	55	3.29	3.91	4.92
25	50%	65	50	2.98	3.55	4.45

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CWC 13 COOLING DUTIES

				Minimum Speed		Medium Speed		Maximum Speed	
Room Air On		CW Temperature		0.120 m^3/s		0.179 m^3/s		0.243 m^3/s	
db °C	wb °C	IN °C	OUT °C	Total	Sensible	Total	Sensible	Total	Sensible
27	19	6	11	2.99	2.06	3.96	2.82	4.81	3.53
21	15	5	9	2.01	1.55	2.68	2.13	3.27	2.68
21	15	5	11	1.32	1.24	1.66	1.66	2.21	2.21
21	15	5	13	1.12	1.12	1.41	1.41	1.65	1.65
21	15	7	11	1.44	1.30	1.94	1.80	2.35	2.28
21	15	7	13	1.05	1.05	1.33	1.33	1.71	1.71
21	15	7	15	0.92	0.92	1.15	1.15	1.34	1.34
21	15	9	13	1.00	1.00	1.45	1.45	1.84	1.84
21	15	9	15	0.84	0.84	1.06	1.06	1.24	1.24
21	15	9	17	0.71	0.71	0.88	0.88	1.02	1.02
24	17	5	9	2.74	1.93	3.64	2.63	4.42	3.30
24	17	5	11	2.14	1.66	2.90	2.30	3.54	2.91
24	17	5	13	1.53	1.40	1.81	1.81	2.32	2.32
24	17	7	11	2.20	1.69	2.92	2.31	3.54	2.91
24	17	7	13	1.40	1.35	2.06	1.95	2.54	2.50
24	17	7	15	1.22	1.22	1.54	1.54	1.81	1.81
24	17	9	13	1.62	1.44	2.15	1.99	2.59	2.52
24	17	9	15	1.15	1.15	1.55	1.55	2.05	2.05
24	17	9	17	1.02	1.02	1.28	1.28	1.49	1.49
27	19	5	9	3.50	2.30	4.64	3.12	5.63	3.00
27	19	5	11	2.98	2.06	3.97	2.82	4.83	3.54
27	19	5	13	2.03	1.66	3.11	2.46	3.82	3.12
27	19	7	11	2.97	2.06	3.93	2.80	4.75	3.50
27	19	7	13	2.41	1.82	3.21	2.50	3.89	3.15
27	19	7	15	1.63	1.50	2.00	2.00	2.69	2.69
27	19	9	13	2.41	1.82	3.18	2.49	3.82	3.12
27	19	9	15	1.74	1.55	2.37	2.17	2.87	2.75
27	19	9	17	1.32	1.32	1.68	1.68	2.21	2.21
29	19	5	9	3.53	2.56	4.68	3.49	5.67	4.35
29	19	5	11	3.03	2.33	4.03	3.19	4.89	4.01
29	19	5	13	2.26	1.99	3.19	2.84	3.91	3.60
29	19	7	11	3.01	2.32	3.98	3.17	4.79	3.97
29	19	7	13	2.47	2.08	3.28	2.87	3.96	3.62
29	19	7	15	1.74	1.74	2.48	2.48	3.18	3.18
29	19	9	13	2.46	2.08	3.23	2.85	3.88	3.59
29	19	9	15	1.83	1.82	2.54	2.54	3.22	3.22
29	19	9	17	1.53	1.53	2.10	2.10	2.74	2.74

CWC 13 HEATING DUTIES

				Minimum Speed	Medium Speed	Maximum Speed
Room Air On		LPHW Temperature		0.120 m^3/s	0.179 m^3/s	0.243 m^3/s
db °C	wb °C/%RH	IN °C	OUT °C	Total	Total	Total
20	12	80	70	6.67	9.18	11.58
10	50%	90	80	9.36	12.88	16.22
10	50%	90	75	9.00	12.35	15.54
10	50%	80	70	8.09	11.12	14.00
10	50%	80	65	7.72	10.58	13.30
10	50%	65	55	6.18	8.47	10.65
10	50%	65	50	5.79	7.92	9.94
15	50%	90	80	8.62	11.87	14.97
15	50%	90	75	8.26	11.35	14.30
15	50%	80	70	7.37	10.13	12.77
15	50%	80	65	7.00	9.61	12.08
15	50%	65	55	5.48	7.52	9.46
15	50%	65	50	5.09	6.98	8.76
20	50%	90	80	7.09	10.89	13.74
20	50%	90	75	7.54	10.38	13.08
20	50%	80	70	6.66	9.17	11.57
20	50%	80	65	6.30	8.65	10.89
20	50%	65	55	4.80	6.59	8.29
20	50%	65	50	4.41	6.05	7.60
25	50%	90	80	7.18	9.92	12.53
25	50%	90	75	6.84	9.42	11.87
25	50%	80	70	5.96	8.22	10.38
25	50%	80	65	5.61	7.71	9.71
25	50%	65	55	4.13	5.67	7.15
25	50%	65	50	3.73	5.13	6.4

CWC 19 COOLING DUTIES

				Minimum Speed		Medium Speed		Maximum Speed	
Room Air On		CW Temperature		0.129 m^3/s		0.179 m^3/s		0.243 m^3/s	
db °C	wb °C	IN °C	OUT °C	Total	Sensible	Total	Sensible	Total	Sensible
27	19	6	11	3.46	2.36	4.47	3.08	5.56	3.91
21	15	5	9	2.32	1.77	3.02	2.32	3.77	2.96
21	15	5	11	1.59	1.43	1.83	1.79	2.30	2.30
21	15	5	13	1.31	1.31	1.60	1.60	1.89	1.89
21	15	7	11	1.64	1.45	2.19	1.95	2.74	2.50
21	15	7	13	1.22	1.22	1.50	1.50	1.79	1.79
21	15	7	15	1.07	1.07	1.30	1.30	1.54	1.54
21	15	9	13	1.14	1.14	1.53	1.53	2.01	2.01
21	15	9	15	0.98	0.98	1.20	1.20	1.42	1.42
21	15	9	17	0.83	0.83	1.00	1.00	1.18	1.18
24	17	5	9	3.17	2.21	4.09	2.88	5.10	3.66
24	17	5	11	2.37	1.84	3.24	2.50	4.10	3.21
24	17	5	13	1.85	1.61	2.11	2.02	2.44	2.44
24	17	7	11	2.56	1.92	3.30	2.52	4.11	3.21
24	17	7	13	1.69	1.55	1.95	1.95	2.94	2.72
24	17	7	15	1.42	1.42	1.74	1.74	2.07	2.07
24	17	9	13	1.88	1.63	2.45	2.16	3.04	2.76
24	17	9	15	1.34	1.34	1.65	1.65	2.15	2.15
24	17	9	17	1.18	1.18	1.45	1.45	1.71	1.71
27	19	5	9	4.05	2.63	5.21	3.42	6.48	4.32
27	19	5	11	3.45	2.35	4.48	3.09	5.59	3.92
27	19	5	13	2.44	1.92	3.38	2.61	4.41	3.43
27	19	7	11	3.45	2.35	4.43	3.07	5.50	3.88
27	19	7	13	2.77	2.05	3.63	2.72	4.54	.348
27	19	7	15	1.97	1.73	2.24	2.17	2.77	2.77
27	19	9	13	2.81	2.07	3.61	2.71	4.46	3.45
27	19	9	15	1.81	1.67	2.67	2.33	3.38	3.02
27	19	9	17	1.54	1.54	1.89	1.89	2.25	2.25
29	19	5	9	4.09	2.92	5.27	3.81	6.54	4.83
29	19	5	11	3.51	2.65	4.55	3.48	5.67	4.43
29	19	5	13	2.50	2.21	3.52	3.03	4.54	3.95
29	19	7	11	3.50	2.64	4.49	3.45	5.57	4.39
29	19	7	13	2.85	2.36	3.72	3.11	4.63	3.98
29	19	7	15	2.03	202	2.49	2.49	3.44	3.44
29	19	9	13	2.86	2.36	3.68	3.10	4.54	3.95
29	19	9	15	2.00	2.00	2.78	2.73	3.53	3.53
29	19	9	17	1.78	1.78	2.19	2.19	2.91	2.91

CWC 19 HEATING DUTIES

				Minimum Speed	Medium Speed	Maximum Speed
Room Air On		LPHW Temperature		0.129 m^3/s	0.179 m^3/s	0.243 m^3/s
db °C	wb °C/%RH	IN °C	OUT °C	Total	Total	Total
20	12	80	70	7.53	9.91	12.66
10	50%	90	80	10.57	13.90	17.74
10	50%	90	75	10.19	13.36	17.03
10	50%	80	70	9.15	12.01	15.32
10	50%	80	65	8.75	11.47	14.60
10	50%	65	55	7.00	9.18	11.69
10	50%	65	50	6.58	8.62	10.95
15	50%	90	80	9.73	12.80	16.36
15	50%	90	75	9.35	12.28	15.66
15	50%	80	70	8.32	10.94	13.97
15	50%	80	65	7.93	10.41	13.26
15	50%	65	55	6.20	8.14	10.38
15	50%	65	50	5.78	7.58	9.65
20	50%	90	80	8.90	11.72	15.00
20	50%	90	75	8.53	11.21	14.31
20	50%	80	70	7.51	9.89	12.64
20	50%	80	65	7.13	9.36	11.94
20	50%	65	55	5.43	7.13	9.09
20	50%	65	50	4.99	6.56	8.37
25	50%	90	80	8.09	10.67	13.66
25	50%	90	75	7.72	10.16	12.99
25	50%	80	70	6.73	8.86	11.33
25	50%	80	65	6.35	8.34	10.64
25	50%	65	55	4.67	6.14	7.83
25	50%	65	50	4.22	5.56	7.10

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WATER VOLUME IN COILS (litres)

COIL	8	9	13	19
COOLING	1.0	1.2	1.6	2.1
HEATING	0.4	0.5	0.6	0.8

OPTIONAL ELECTRIC HEATING

CWC	at 230V 50Hz (kW)	at 240V 50Hz (kW)
8	1.4	1.5
9	1.8	2.0
13	2.3	2.5
19	3.4	3.75

SOUND POWER and SOUND PRESSURE LEVELS

962 SERIES CWC

		SOUND POWER LEVELS							SOUND PRESSURE LEVELS	
		Frequency Hz								
MODEL	SPEED	125	250	500	1K	2K	4K	dBA	dBA	NC
8	Min	49.1	51.4	51.2	47.1	41.0	40.7	52.7	31.7	24
	Med	50.6	52.7	52.7	48.8	41.6	37.8	53.6	32.6	26
	Max	54.3	57.2	54.3	50.9	43.9	40.8	55.8	34.8	28
9	Min	50.2	52.0	50.9	47.5	41.0	39.5	52.7	31.7	25
	Med	52.6	54.1	53.6	50.6	43.1	39.6	55.1	34.1	28
	Max	56.2	56.3	55.2	53.1	45.3	40.6	57.0	36.0	30
13	Min	50.3	51.7	50.4	46.8	43.1	44.4	53.5	32.5	26
	Med	54.8	54.8	53.9	50.4	44.6	44.3	55.8	34.8	28
	Max	58.5	57.4	55.0	52.4	46.0	44.8	57.2	36.2	30
19	Min	50.7	52.3	49.7	44.8	35.7	30.8	50.2	29.2	22
	Med	55.3	55.6	53.7	49.6	41.2	34.6	54.6	33.6	27
	Max	58.3	58.2	55.3	52.3	43.9	38.0	56.8	35.8	30

Sound Power Levels were obtained in full conformity with BS 4196: Part 5: 1981. Quantities are shown in dB with a standard reference of 1 pW.

Sound Pressure Levels are dB relative to 2 x 10^{-5}N/m^2 and are calculated from the results under anechoic conditions and are quoted as an average of all points on a hemisphere of a radius of 3m away, 1m down from the centre of the unit.

ELECTRICAL DATA

CWC Maximum Running Current in Amps (At 230 V, 50 Hz).

Model	8	9	13	19
Standard	0.3	0.3	0.3	0.4
With Electric Htg	6.3	8.3	10.4	15.6

RECOMMENDED FUSE SIZES (Amps)

Model	8	9	13	19
Standard	3	3	3	3
With Electric Htg	10	13	13	20

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962 SERIES CWC CASSETTE INSTALLATION

The **962 SERIES CWC CASSETTE** is designed to operate within a suspended false ceiling.

The installer supplies:

Remote thermostat (available separately, part number 96000320)
4 lengths of screwed rod (M8, M10 or 3/8" OD) with 12 nuts, to suspend the chassis.
Method of securing screwed rod to solid ceiling e.g. Rawl bolt shields.
All mains wiring, with suitable isolation.
Interconnecting wires for remote thermostat, (available from IMI in 100m drums; part number 00526116S).
Insulated pipework.
2 screws to secure the remote thermostat.
Condensate drain (21.5mm OD for gravity drain or 8mm ID if a condensate pump is fitted).

Unpacking

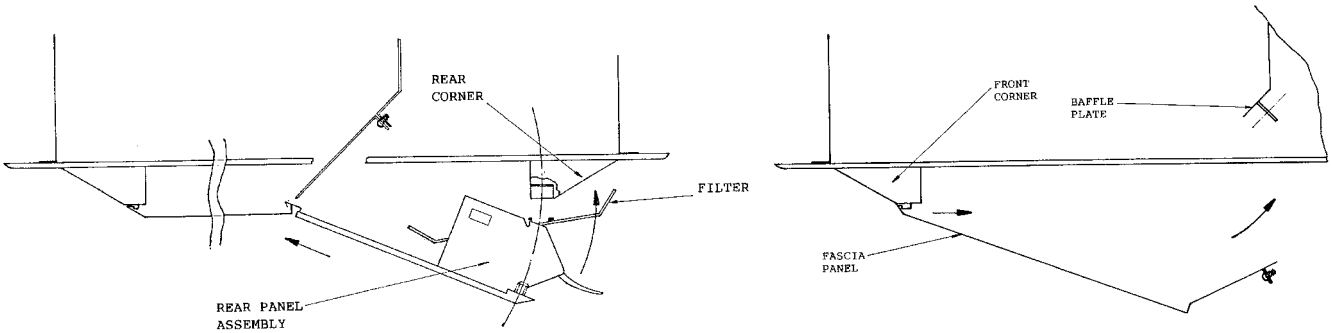
Carefully unfasten the box and lift off the cardboard sleeve to gain access to the unit.

The following are supplied:

* Cassette unit complete with fascia
* 2 Suspension brackets
* Cardboard template for marking out rod mounting centres
* Envelope containing operating instructions for the end user
* 8 washers - Use on suspension brackets
* 4 screws - Chassis to suspension brackets
* 4 pointed screws - Fascia frame to chassis
* 2 cable clamps - External cable entries

The fascia must be removed, (as shown below), and carefully set aside prior to mounting the chassis.

1 Remove the smaller rear panel and filter by depressing the panel above each rear corner to release the latches. Hinge the panel upwards and disengage the panel hooks.
2 Remove the fascia panel by undoing the 2 captive screws above the fan deck. Raise the angled edge of the panel whilst sliding it forwards to disengage the locating hooks on the front corners.
3 Remove the fascia frame by depressing the spring latches on the inside of the chassis on opposite corners to disengage the tabs on the frame. The frame may now be carefully lifted away from the chassis.

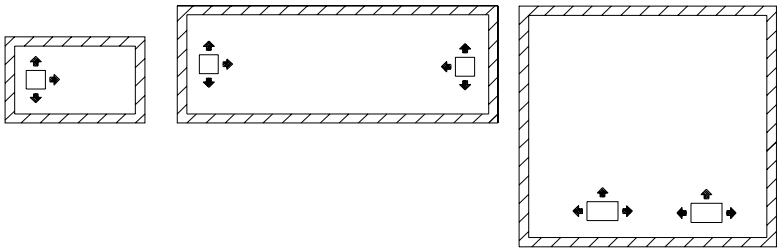


Chassis Mounting

NOTE: It is generally easier to fit kits prior to mounting the unit and connecting the pipework.

Units are sized to allow each chassis to fit conveniently in a standard tiled ceiling although it is recommended that the ceiling is built with the unit in position; the CWC 8 in a 600mm x 600mm tile space and the CWC 9 to 13 in a 1200mm x 600mm tile space.

Units may be fitted into plasterboard ceilings but access traps for the condensate pump and pipework must be provided. Location of the unit will depend on the room shape, load and number of units installed. Typical options are:



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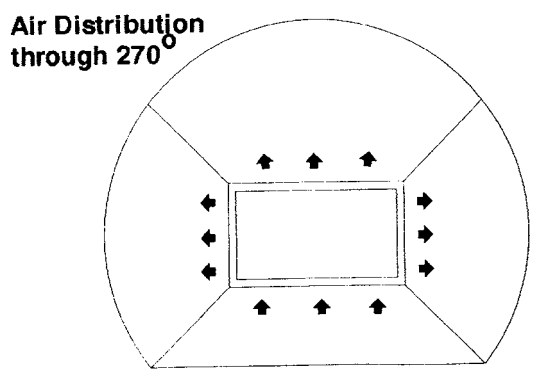
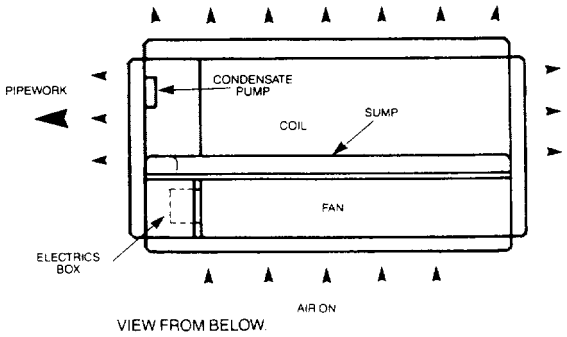


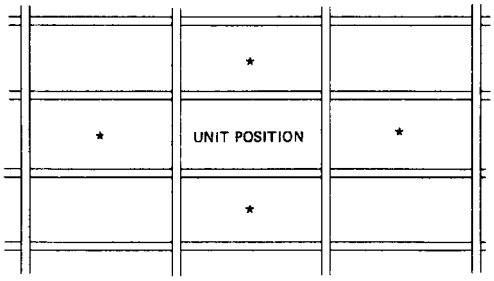


1 Determine the position for the unit; the air inlet must be at least 400mm from the nearest wall. Also ensure that the position does not interfere with light fittings, sprinkler heads, etc..

2 Identify the type of ceiling and ensure that the mounting surface will support the operating weight of the cassette:

MODEL	8	9	13	19
OPERATING WEIGHT (kg)	25.5	32.5	41.0	51.0

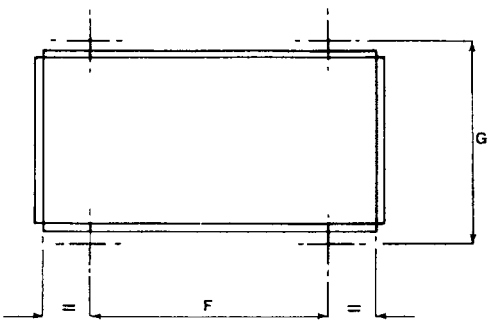
3 If fitting the unit after the ceiling has been installed, remove the ceiling tile(s) to accept the chassis, plus adjacent tiles on each side for general access.

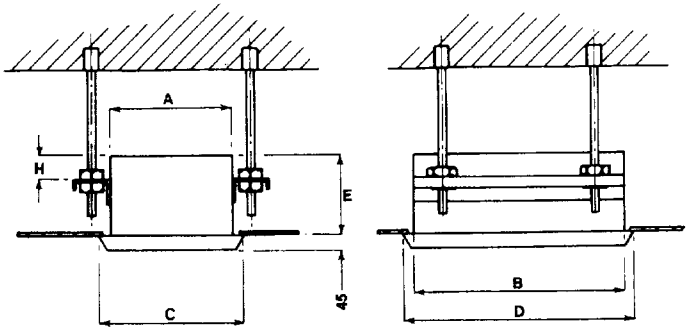


*** Remove these tiles for complete installation access.**

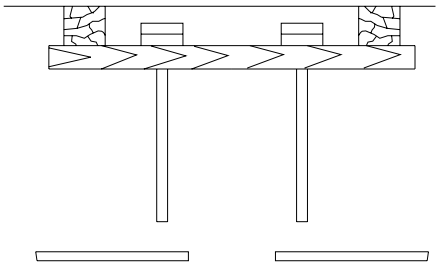
4 The chassis should be supported by four screwed rods and 12 nuts (M8, M10 or 3/8"OD) supplied by the installer. Rod mounting centres are shown at + - + below; use the template provided to mark these out.

Model	8	9	13	19
A (Chassis depth)	568	568	568	568
B (Chassis width)	565	665	865	1165
C (Fascia depth)	647	647	647	647
D (Fascia width)	647	747	947	1247
E (Height above ceiling)	293	293	293	293
F (Rod mounting centres)	494	494	794	794
G (Rod mounting centres)	604	604	604	604
H (Base to suspension hook)	92	92	92	92





On plasterboard suspended ceilings, remove sufficient of the ceiling to give clearance for the unit to be fitted, and for access to pipework and electrics at the right hand side (motor end); a trap door should be left for service access to electrics and pipework.



On reinforced concrete ceilings use Rawl bolt shields or equivalent.

On wooden ceilings use battens for a mounting frame.

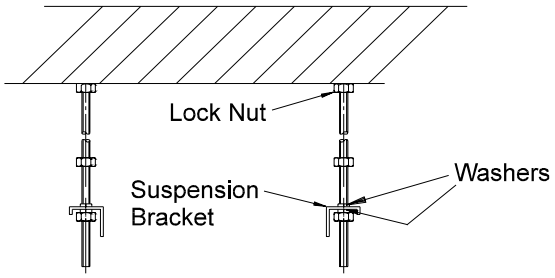
5 If a heater kit or LPHW coil is to be used, fit prior to mounting the unit.

6 Hang the four mounting rods; using twelve nuts and eight washers support the suspension brackets so that the hooks are approximately 120 - 130mm above the lower surface of the suspended ceiling

7 Remove the right hand blanking plate (7 screws) from the chassis to expose the open ends of the coil inlet and outlet pipes; the outlet pipe is identifiable by the bleed valve.

8 Remove and retain the finger guard (1 screw)

9 Carefully lift the chassis up to the suspension brackets and locate the hooks on the suspension brackets into the chassis. Use the nuts to jack the chassis up until the flange is flush with the suspended ceiling. **Ensure that the chassis is level in two directions, even if the ceiling is not; failure to do so may result in incorrect condensate drainage or noisy fan operation.** Lock the nuts securely.



10 Secure the chassis to the suspension brackets using the four screws provided, (2 each side).

PIPEWORK

IMPORTANT: Do **NOT** use solenoid valves with this unit as they will render the overflow protection switch useless. If no alternative is available, replace the switch with a length of 1.5 square millimetres diameter wire.
Pipework is terminated at the right hand end of the unit and is 15mm waterpipe.
Pipe runs can be brazed or compression fittings may be used.
When brazing, mask the chassis to prevent burning of the insulation.
It is preferable to fit valves once the unit has been mounted in the ceiling. These are available factory fitted, with compression fittings, or as a 'field-fit' kit.

ELECTRICAL CONNECTIONS

Refer to page 8 for all electrical data.

All mains and control cables must be supplied and fitted by the installer.

The installer wiring must be carried out in accordance with IEE regulations and local codes.

All cables must be size compatible with the recommended fuse for a given system.

An isolator switch should be positioned within easy reach of the unit.

The equipment MUST be earthed.

Cable glands suitable for stranded cables are supplied and should be used to secure all cables. Installers must supply a method of securing any solid sheathed cable.

FIRE LINK

In order to automatically switch off the fan in the event of a fire, it is necessary to fit an external switch (240V, 3A, closed to run, volt free contact) between terminal block terminal 2 and the IMI remote control thermostat (if fitted) terminal 2. This switch should be operated by the building's fire alarm or BMS system.

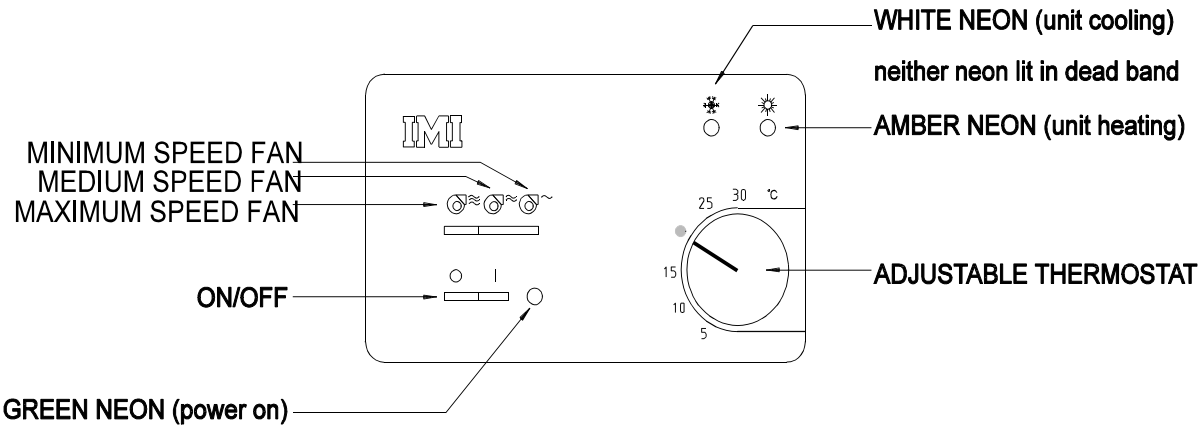
INSTALLATION of the IMI REMOTE CONTROLLER, (if used).

The thermostat should be wired with 7 cores of double insulated 230V cable, 0.5 square millimetres minimum, (available from IMI in 100m drums; part number 00526116S), preferably in plastic conduit for good appearance.
Select a position to mount the thermostat taking into account the following comments:

a The thermostat must be mounted on a flat surface within the area conditioned by the CWC to which it is connected.
b Avoid draughts, heat from radiators, temperature variations from hot/cold water pipes and direct sunlight.
c Avoid corners of the room where air is likely to stagnate.
d Avoid direct air discharge from the CWC unit.
e Avoid positions where the thermostat may be covered or obscured.
f If the room contains pillars, mount on the side of the pillar furthest away from the unit. If necessary, consider blocking off the air discharge from the side facing the thermostat.

Carefully prise off the push-fit dial on the remote control, unscrew the retaining screw and remove the control cover.
Mount the control directly to a wall or onto a plinth, using two suitable fasteners, (not supplied).
Wire between the remote control and the CWC unit as shown in the wiring diagram, preferably using multi-core cable, (wiring diagram on page 14).

Setting instructions:
The cooling differential (cool in to cool out) is fixed at 1.8 +/- 0.5˚C.
The heating differential (heat in to heat out) is fixed at 1.5 +/- 0.5˚C.
The deadband is fixed at 1.2 +/- 0.7˚C.



The set point limits can be adjusted on the back of the push-fit dial; **DO NOT SET THE LOWER SET POINT BELOW 15˚C.**

FASCIA MOUNTING

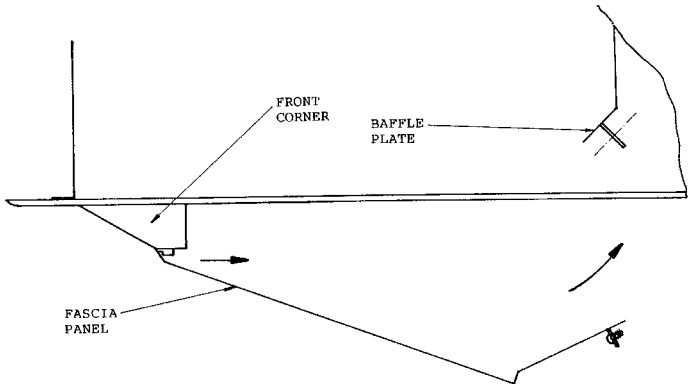
Ensure that the chassis is electrically isolated.

Frame Assembly Mounting

Offer the frame assembly up to the chassis ensuring that the side with no deflector vane is below the fan deck.
Allow the slots in the frame assembly, on each long side, to locate into the spring clips on the chassis.
Secure the frame assembly in situ, from the inside of the chassis, using the four screws provided.
If a vane motor is fitted, connect the three pin plug from the vane motor assembly to the socket adjacent to the fan. Replace the finger guard.

Fascia Panel Mounting

Locate the large fascia panel by sliding the flange on the top of the panel under the locating hooks on the front corners (push aside some insulation if necessary).
Pull the panel fully onto the locating hooks and simultaneously raise the rear edge to meet the angle on the baffle plate.
Secure the panel to the baffle, using the two captive screws provided, through the holes in the baffle plate. Tighten the screws only as far as is necessary to allow the panel to sit parallel to the fascia frame.



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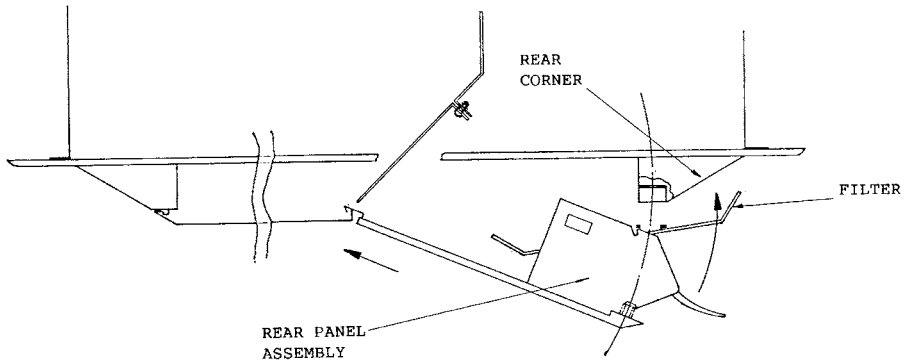
Rear Panel Assembly

The vane on this panel is fixed in position and **is not adjustable.**

1 Fit the filter to the rear panel assembly by dropping the pins at each end of the filter into the slots provided in the rear panel locating brackets. Ensure that the angled legs of the filter are uppermost. The filter should fit below the tabs in the rear panel locating brackets.

2 Offer the rear panel up to the unit (filter uppermost) allowing the panel hooks to pass through the slots in the fascia panel. Pivot the filter upwards at the vane side of the panel, shown below, to allow it to clear the frame. Swing the panel upwards until the pin latches locate with the rear corners. Ensure that the pin latches are engaged by firmly pressing the panel upwards immediately below each corner.

NOTE: Should the pin latches not engage, the location plates in the corner mouldings can be repositioned to suit by moving the plates, using a screwdriver or similar tool.



The three air off vanes are manually adjusted unless a vane motor kit is fitted when, on units with heating available, the vanes move automatically to direct warm air downwards.

Condensate Removal

Condensate is collected in a series of drip catchers, running down into a sump. The sump is linked to a connector secured to the side panel at the motor/pipe end of the unit. A straight adaptor is supplied loose and this can be screwed onto the outer thread of the connector. The adaptor will accept 22.5mm OD pipe. Check that there is sufficient fall and water drains freely from the sump without leaking.

An overflow switch is fitted to the drain sump which will prevent further cooling should the gravity drain become blocked.

If a condensate pump is fitted, connect an 8mm bore hose to the white connector pushed through a grommet at the motor/pipe end of the unit. The use of an 8mm hose should prevent syphoning occurring. But, if the drain outlet is below the level of the pump and syphoning does occur fit an air break no lower than 200mm below the level of the pump.

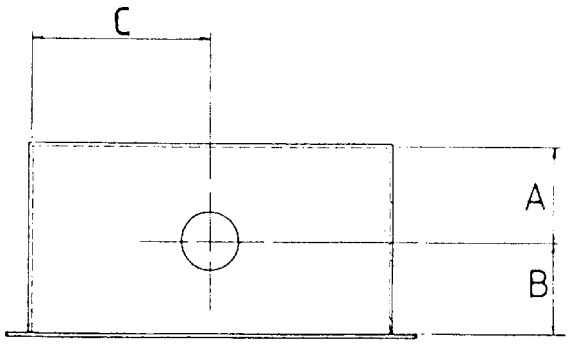
The pump is driven by a sensor sited in the drain sump. If the condensate pump fails the condensate level will rise and a second sensor will break the cooling circuit.

IMPORTANT: When the unit is first switched on, the sensors will require up to one minute to stabilise before cooling is available or the pump will run.

NOTE: The clear plastic hose fitted to the sump allows the installer to drain the sump prior to removal during maintenance work. **UNDER NO CIRCUMSTANCES SHOULD THIS BE USED AS A GRAVITY DRAIN.**

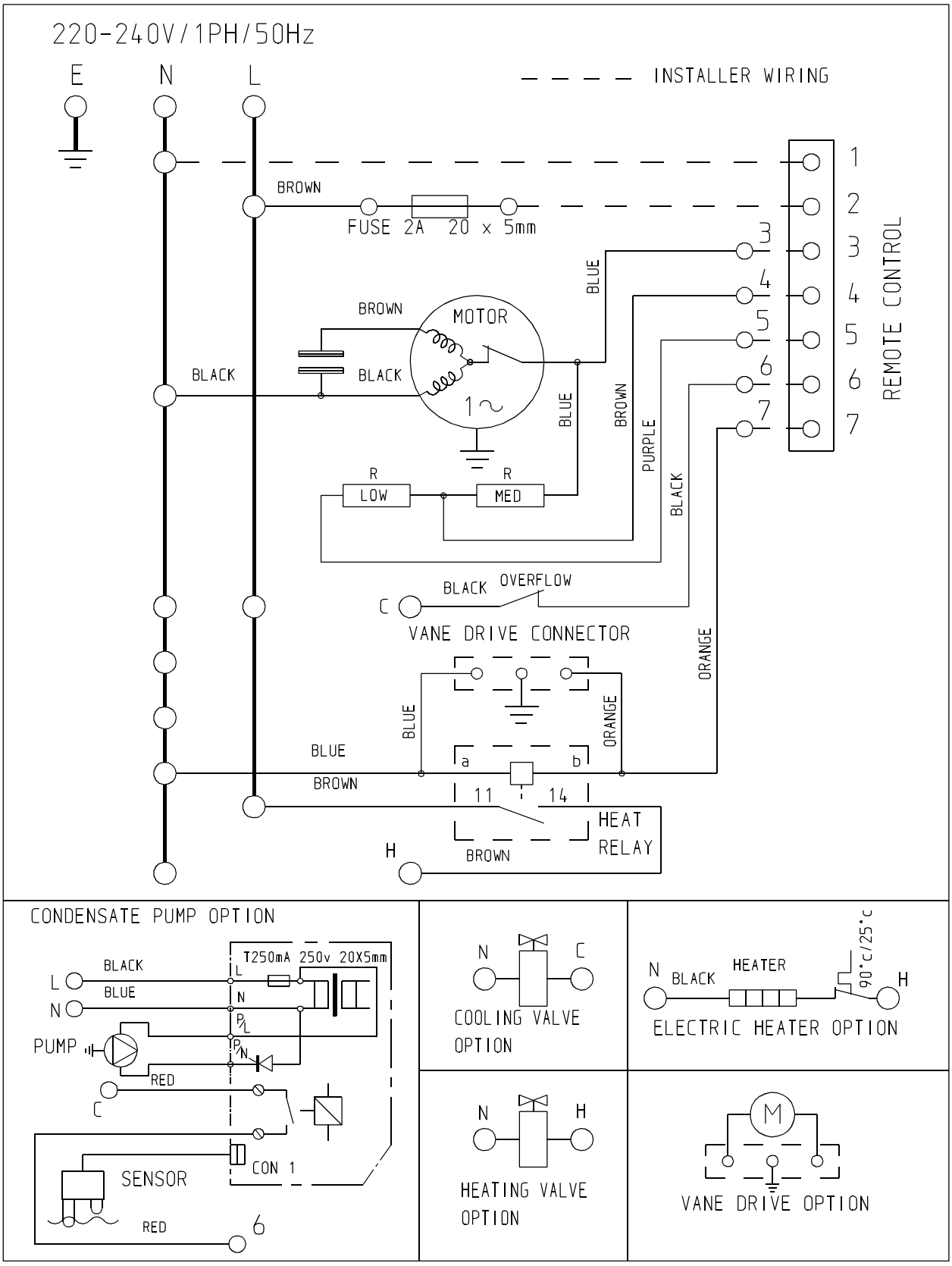
Fresh Air/Adjacent Room Supply

100mm diameter holes are provided on both the air on and air off sides of the chassis for fresh air/adjacent room supply facilities. The installer has to provide ducting, external filter and slave fan if required. As supplied, the holes are blanked with insulation foam. Typical fresh air intake is approximately 10% at Maximum speed. The adjacent room supply facility must be used with a slave fan.

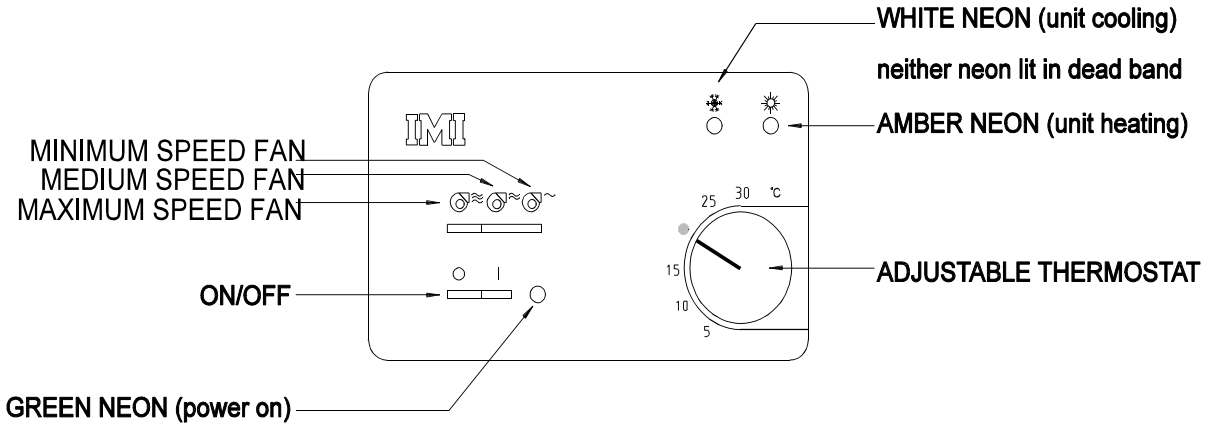


Dimension	8	9	13/19
A	195	195	195
B	95	95	95
C	142	192	431

CWC WIRING DIAGRAM



CWC CHILLED WATER CASSETTE OPERATING INSTRUCTIONS



REMOTE CONTROLLER

Controls to operate the fan speeds and thermostat are on the front face of the controller.

ON/OFF AND FAN SPEEDS

The switches on the left hand side control the ON/OFF and fan speed operations.

The lower left hand switch is the ON/OFF control. The green neon is lit when the switch is 'ON'.

The upper left hand switch operates the fan speeds

The fan speed switch gives:- minimum fan speed at position

medium fan speed at position

maximum fan speed at position

TEMPERATURE CONTROL

The right hand knob selects temperature, which is automatically controlled by the thermostat in the remote control housing; the range is factory set from 17˚C to 30˚C.

By turning anti-clockwise, lower room temperatures are maintained; by turning clockwise, higher room temperatures are maintained.

The white neon is lit when the unit is in cooling mode.

The amber neon is lit when the unit is in heating mode (if heating is fitted*).

Neither neon is lit when the thermostat is between cooling and heating.

(*Electric heating is available as an optional kit; Low Pressure Hot Water heating is only available as a factory fitted option).

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User Maintenance

WARNING: The deflector vane on the rear, (air on), panel is fixed in position and does not move.

DO NOT ATTEMPT TO ADJUST ITS POSITION

Isolate at the mains before commencing any maintenance work.

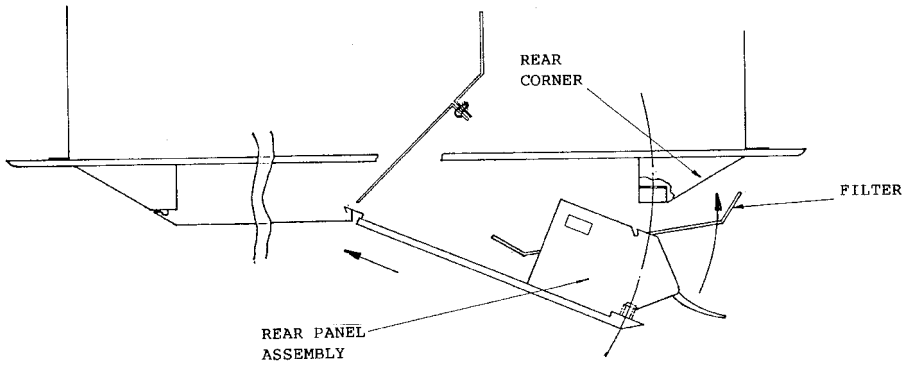
In order to maintain maximum efficiency it is important that the filter behind the return grille is cleaned regularly; this will normally be every two to three weeks.

To remove the filter, push the rear panel upwards at each corner to release the latches, and gently lower by hand, (see below).

DO NOT ALLOW TO SWING FREELY.

The rear panel may be removed from the unit by tilting it to approximately 45˚ from the horizontal and carefully lifting to disengage the location hooks; the panel will now slide clear of the fascia.

The filter may be lifted from its slots and cleaned by vacuuming, tapping gently or washing.



THE UNIT SHOULD ALWAYS BE USED WITH A FILTER. FAILURE TO DO SO WILL CAUSE A DECLINE IN UNIT PERFORMANCE AND MAY RESULT IN MALFUNCTION.

We recommend that in order to prolong the life and maintain performance of your **'Airking'** units you arrange a regular service contract with your IMI Air Conditioning Ltd. installer/dealer.

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